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We invite and urge you to use this Service. It is absolutely *free* to every member of the California Medical Association. The Coöperative Bureau is equipped with catalogues and price lists of manufacturers, and can supply you information by return mail.

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may be pretty close — but it
won't do for YOUR patients!

Riggs technicians have been trained to that degree of accuracy which produces ophthalmic prescriptions which "exactly interpret the Rx you have written."

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RIGGS OPTICAL COMPANY

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ESTABLISHED IN EIGHTY-FIVE WESTERN CITIES

MIGRAINE

is relieved in a large percentage of
patients by



GYNERGEN

Brand of Ergotamine Tartrate

DOSAGE: 0.5 cc. intramuscularly as early as possible. In resistant cases, the dosage may be increased up to 1 cc. In mild attacks 2 to 6 tablets often prove effective.

Ampules, 0.5 cc.: Boxes of 6, 50, 100.

Ampules, 1 cc.: Boxes of 6, 12, 50, 100.

Tablets: Bottles of 15, 100, 500.

Solution: Bottles of 15 cc. and 100 cc.

Literature on request

SANDOZ CHEMICAL WORKS, INC.

450 SUTTER STREET

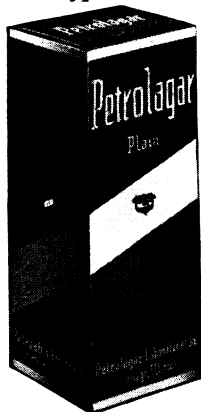
SAN FRANCISCO, CALIFORNIA



With Drugs that Constipate--

★★ **Petrolagar**

★
Available at all
Pharmacies
in 5 Types



During a period of treatment with drugs that constipate, consider the usefulness of Petrolagar as an aid to regular Bowel Habit Time.

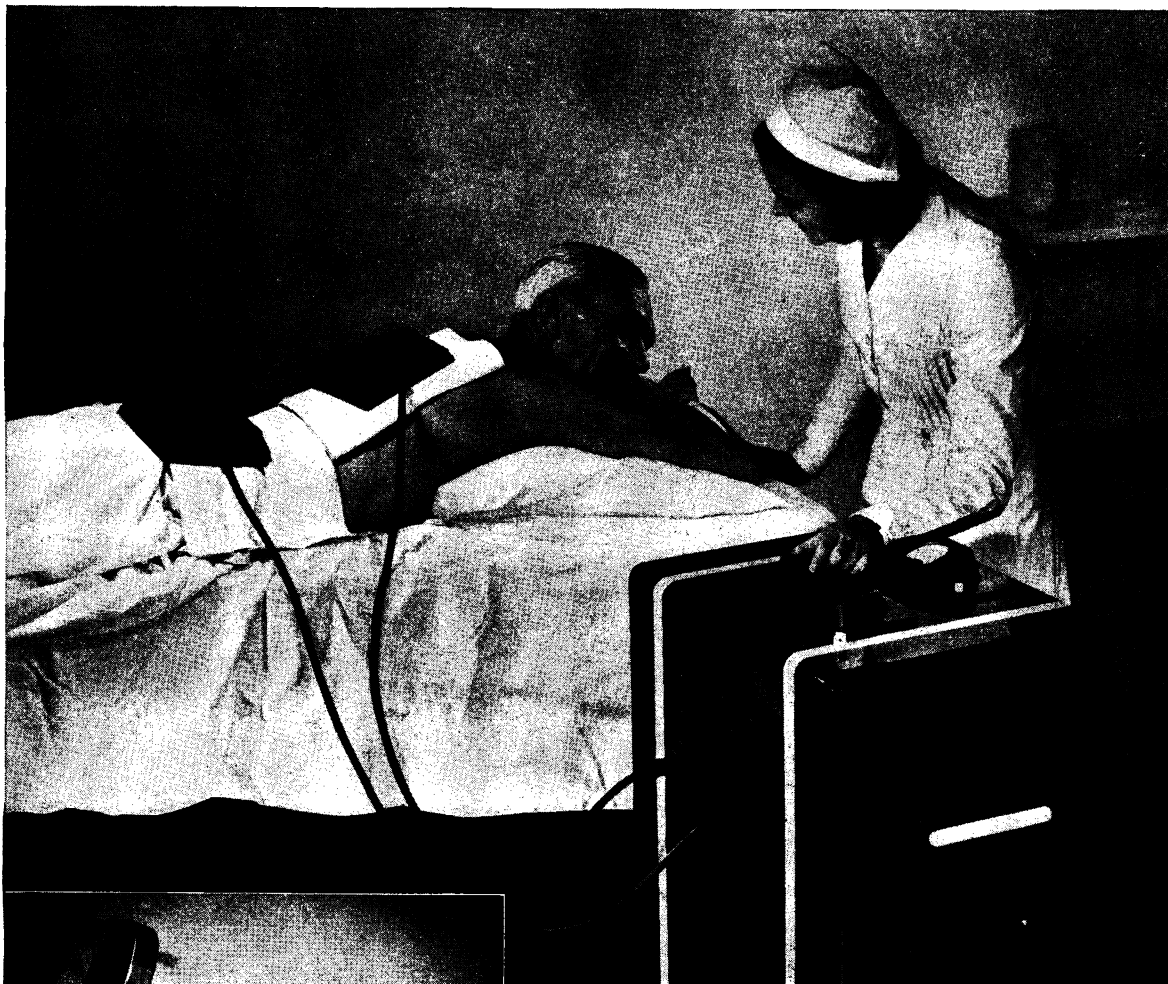
Petrolagar is inert. It induces a soft, comfortable movement with little possibility of affecting the therapeutic efficiency of drugs likely to cause intestinal stasis.

In most cases, the interruption of Bowel Habit Time may be avoided with the aid of Petrolagar Plain. In others, more obstinate, the mild stimulating effect of Petrolagar with Cascara may be indicated. Petrolagar is prepared in Five Types—Plain, with Phenolphthalein, with Milk of Magnesia, Unsweetened and with Cascara, to provide the physician with a choice of medication adaptable to the individual's requirements.

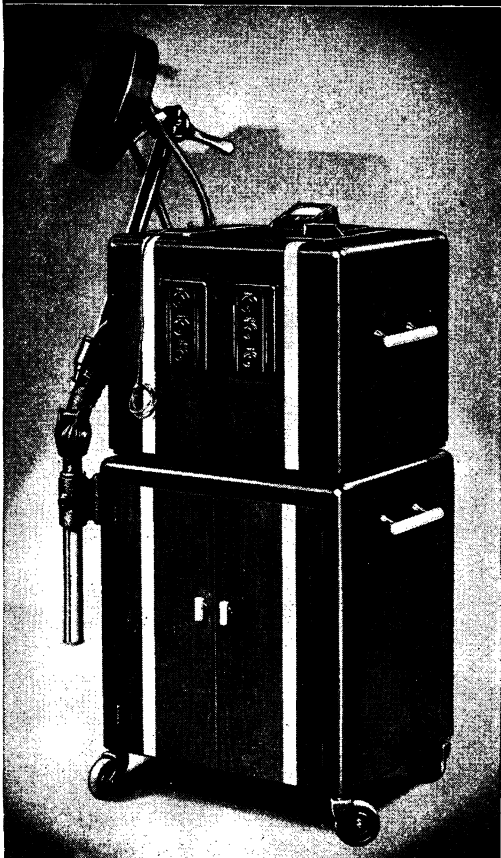


Petrolagar . . . Liquid petrolatum 65 cc. emulsified with 0.4 Gm. agar in a menstruum to make 100 cc.

Petrolagar Laboratories, Inc. • 8134 McCormick Boulevard • Chicago, Illinois



(Above) Institutional Model Endotherm



(Left) Transportable Endotherm

Endotherm

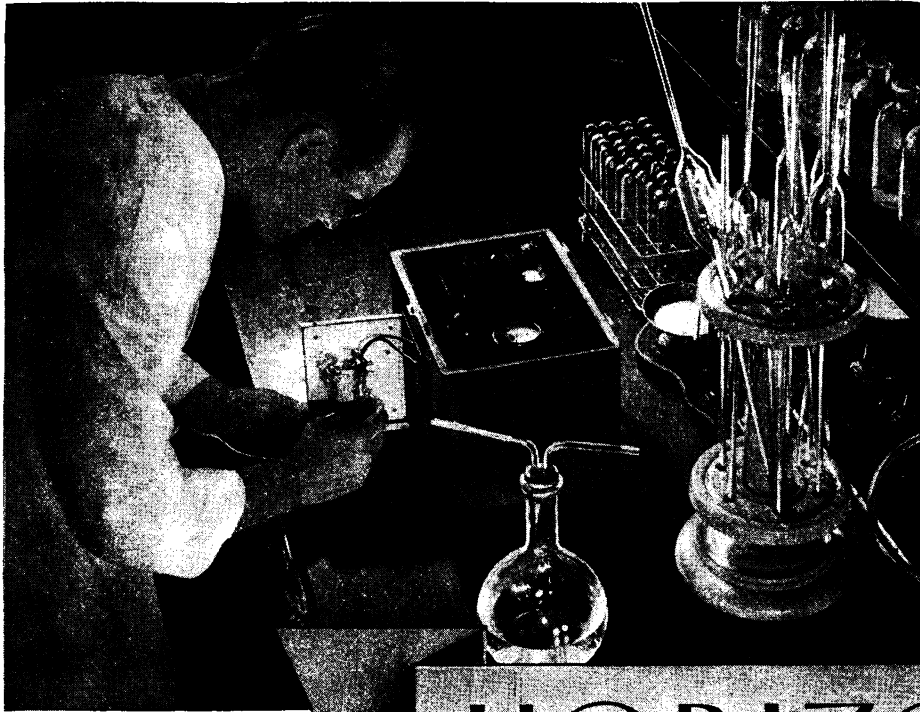
The Endotherm is one of the *wisest* investments you can make today. You'll find year-around need for short wave diathermy, but *right now* is the time for its most widespread use. For facts, figures and a demonstration —sign and mail the coupon *today*.

Westinghouse X-Ray Co., Inc.
Long Island City, New York

Gentlemen: Please arrange for a demonstration of Endotherm at my office on_____. It is understood that I can give it a thorough trial without obligation on my part.

DR. _____

Tune in "Musical Americana," NBC Blue Network, Thursday, 8 P.M., E.S.T.; 7 P.M., C.S.T.; 9:30 P.M., M.S.T.; 8:30 P.M., P.S.T.



Accuracy, attained with the use of high precision instruments contributes to the perfection of fine therapeutic agents. Here the chemist is determining the exact degree of acidity of a solution by means of the potentiometer.

HORIZONS

MANY a therapeutically useful substance continues to elude the powerful searchlight that scans the distant horizons for better, safer, more certain ways to alleviate and prevent disease. Research and more research, intensive and unceasing, is necessary to discover and render useful the things that now lie hidden beyond the horizon of the "Unknown".

Men of acknowledged standing in their highly specialized professions are devoting themselves in the Warner Institute for Therapeutic Research to bring these "horizons"



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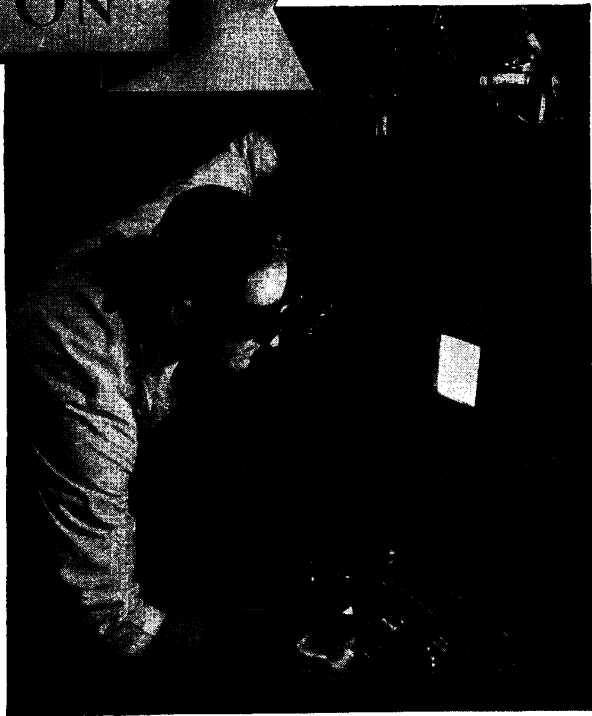
within reach of medicine, by the discovery of new remedial agents, by the improvement of known drugs, and by searching out facts dedicated to pure science alone.

Drugs in the making must prove their safety and worth to the pharmacologist, to the biochemist, to the bacteriologist before they can be passed on for final judgment to the clin-



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ician. Only devotion to an aim can sustain the research worker in his quest for the seemingly unattainable. When his unremitting patience is rewarded and "new horizons" are reached, it will be the privilege of William R. Warner & Co., Inc., to make these results available to the physician and pharmacist, and through them, to the public.



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Biological testing on laboratory animals of various types precedes release of a new drug to the clinician for study of its therapeutic efficacy. This specially constructed X-ray and fluoroscopic unit permits the observation of structural changes and movements of internal organs influenced by drugs.

& COMPANY, INC.

A world-wide organization with laboratories and agencies in 75 foreign countries.

It's time to begin treatments for

HAY FEVER

THE advantages of the strong glycerin medium of "Pollen Antigens *Lederle*" are

- its high preservative property (no detectable deterioration in 5 years);
- its excellent bacteriostatic property;
- its property of lessening the severity of constitutional reactions (presumably because the concentration of glycerin at first lessens the rate of absorption).

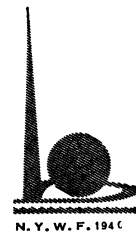
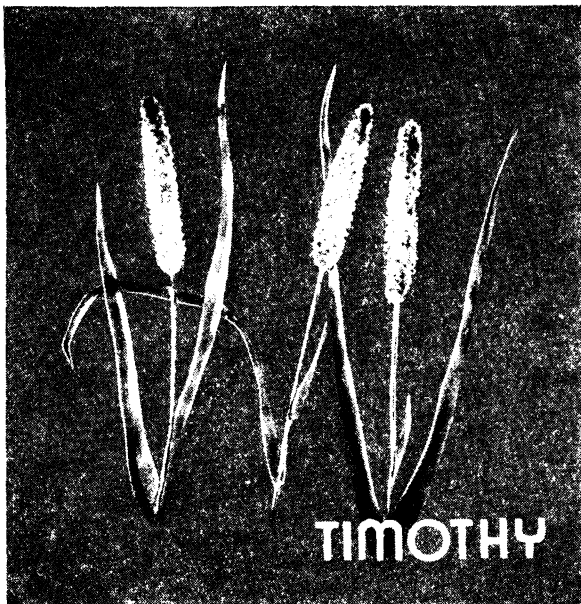
An approximate guide to the proper dosage of Pollen Antigen in each case is furnished by the simple quantitative scratch test, which is described in our literature.

A postcard to any of our offices will bring to your desk detailed information regarding routine treatment or the management of unusual cases.

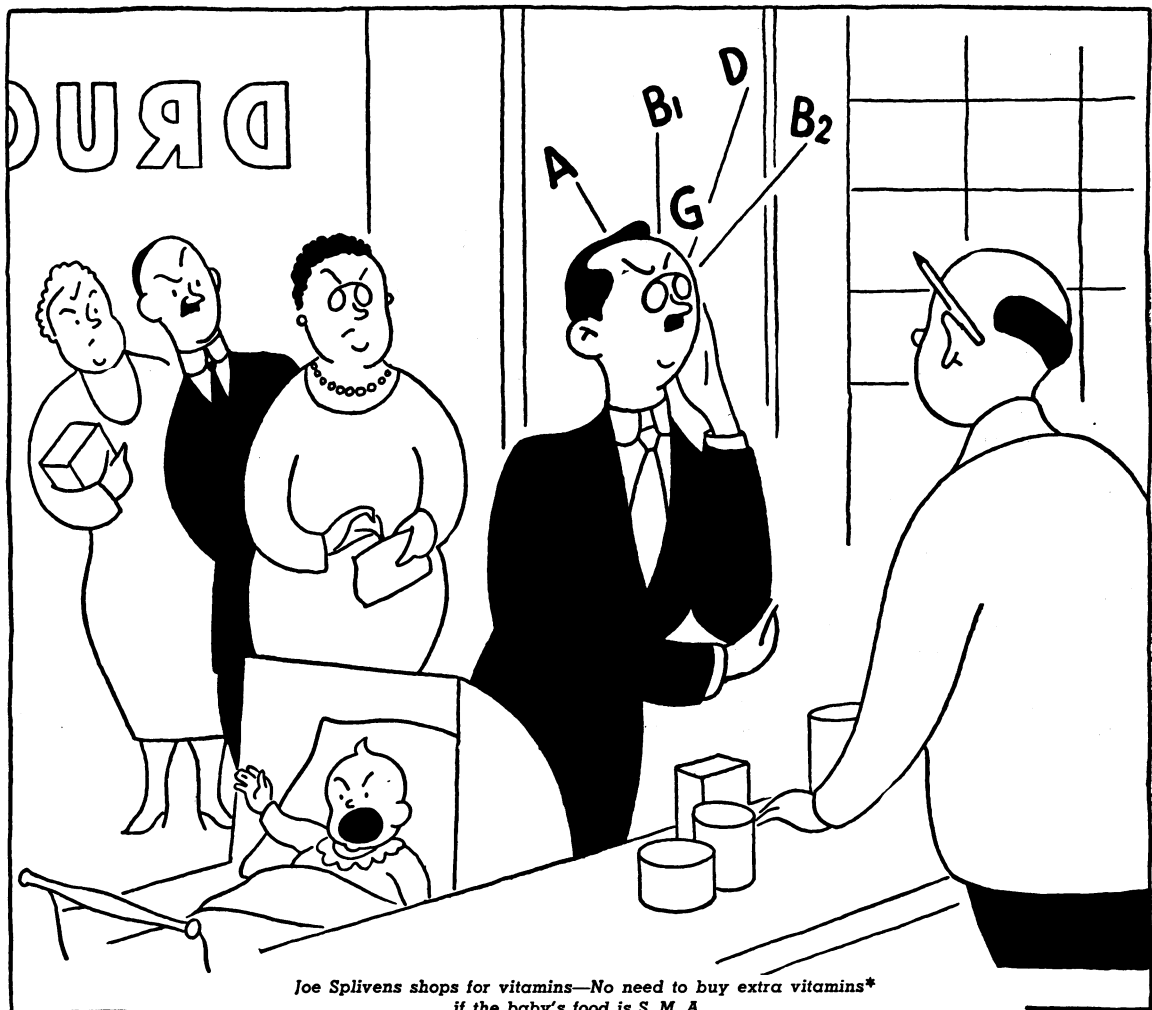
Let us be your consultants.

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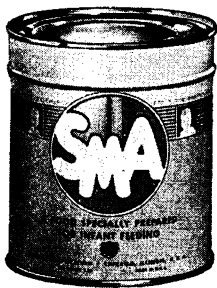
San Francisco: 450 Sutter St. Los Angeles: 714 W. Olympic Blvd.
Lederle Laboratories Depot, 1216 S. W. Stark St., Portland, Oregon



CALORIE COMPUTATIONS



Joe Splivens shops for vitamins—No need to buy extra vitamins* if the baby's food is S. M. A.



Vitamins A, B₁ and D are included in S.M.A. in quantities sufficient to meet the needs of the normal infant. Only the addition of vitamin C, as supplemented by orange juice, is required, just as it is for breast-fed infants.

When diluted according to directions, each quart of S.M.A., ready to feed, provides not less than 200 International Units of vitamin B₁, 7500 U.S.P. units of vitamin A activity, of which approximately 333 U.S.P. units are in the form of Pro-vitamin A (200 gamma of carotene) and not less than 400 U.S.P. units of vitamin D in the form of cod liver oil.

*Except vitamin C

NORMAL INFANTS RELISH S. M. A. — DIGEST IT EASILY AND THRIVE ON IT

S. M. A. is a food for infants—derived from tuberculin-tested cow's milk, the fat of which is replaced by animal and vegetable fats including biologically tested cod liver oil; with the addition of milk sugar and potassium chloride;

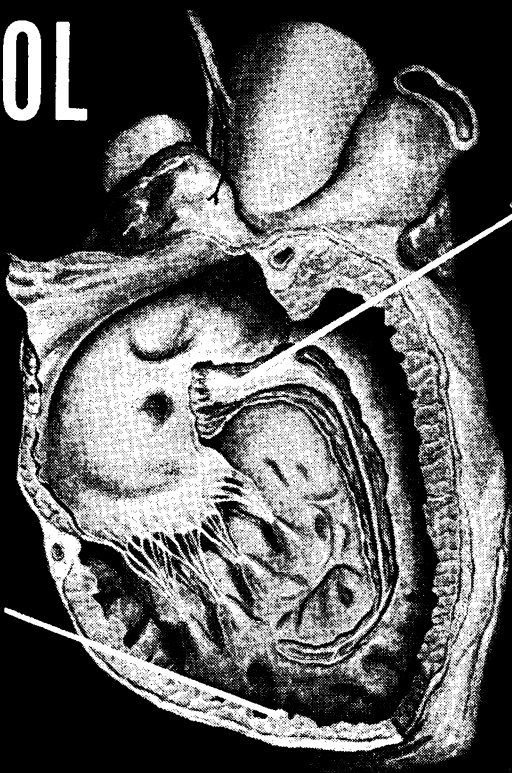


altogether forming an antirachitic food. When diluted according to directions, it is essentially similar to human milk in percentages of protein, fat, carbohydrate and ash, in chemical constants of the fat and physical properties.

S. M. A. CORPORATION • 8100 McCORMICK BOULEVARD • CHICAGO, ILLINOIS

For uniformity and dependability in digitalis medication, rely on **DIGITOL**

Digitol acts directly on the heart muscle to increase its force of contraction and cause more complete systolic emptying.



Digitol decreases conduction of the auriculo-ventricular bundle (of His), thus suppressing abnormal impulses and tending to correct irregularities.



When the physician prescribes a digitalis preparation, he expects to receive a uniform and thoroughly dependable product. Our laboratories early recognized the necessity for a uniform tincture of digitalis and, sensing the direction of scientific medicine in the greater accuracy of dosage, applied physiological assay methods in the standardization of Digitol as early as 1901.

Today, each lot of Digitol is physiologically standardized by the "one-hour frog method" official in the U.S.P. XI.

The date of this test appears on the label of each bottle.

Digitol is a fat-free tincture; it makes a more slightly mixture with water on administration. Its elegant appearance, absence of precipitation, accurate standardization and dependable activity are advantages which have been maintained. Digitol is marketed only in one-ounce sealed bottles supplied with a dropper for ease of administration.



"For the Conservation of Life"

Pharmaceuticals

SHARP & DOHME

Mulford Biologicals

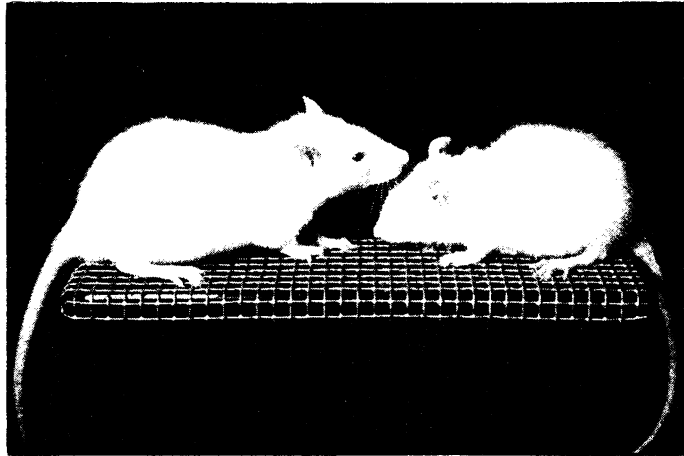
PHILADELPHIA

STUDIES IN THE AVITAMINOSES

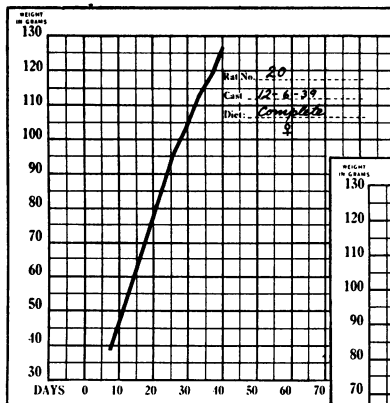


This page is the third of a series on vitamin deficiencies presented by the research division of The Upjohn Company because of the profession's widespread interest in the subject. A full color, two-page insert on the same subject appears in the March 9 issue of The Journal of the American Medical Association.

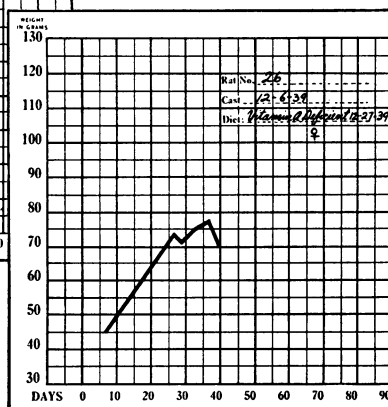
INHIBITION of growth in the rat produced by restriction of vitamin A in the diet. The animals, litter mates, were 21 days old at the start of the experiment which was continued for 33 days. The animal at right received a diet containing all nutritive substances except vitamin A; the animal at left, an adequate diet. Note the xerophthalmia in vitamin A deprived rat.



Retardation of Growth Due to Vitamin A Deficiency



The upper graph records the growth of a rat on a complete diet. The lower graph records the growth of a litter mate on a vitamin A deficient diet; it depicts almost immediate retardation and cessation of growth.

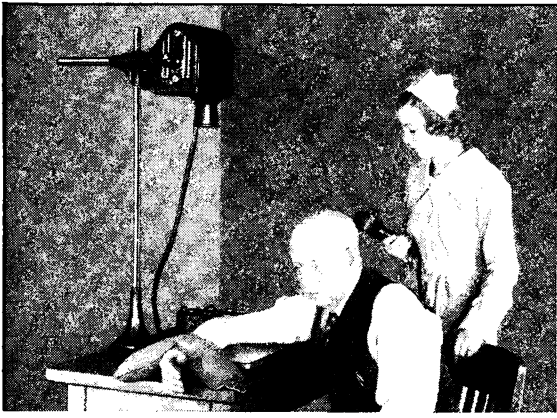


While vitamin A is no more essential for growth than are other indispensable nutritional factors, its deprivation leads to well-defined growth retardation in man as well as in

experimental animals. This action is so predictable that it is employed as a basis for one of the methods of vitamin A assay. The immediate effect of vitamin A deficiency on growth is cessation of endochondral bone formation. The curves reproduced illustrate the prompt growth-inhibiting effect of vitamin A deprivation in rats.



"It must be EFFICIENT, DEPENDABLE, and PORTABLE"



Nootka Mission Hospital, located in isolated Ceepeecee on the west coast of Vancouver Island off the British Columbia mainland, serves 1500 persons who live and work along a 100-mile stretch of coastline.

THAT'S what the Nootka Mission Hospital required in its x-ray equipment, and the G-E Model F-3 Unit was selected because it met every need.

Efficiency and ease of operation were important. Most of the people in the Ceepeecee area are engaged in hazardous work—mining, logging, millwork, fishing—work that produces a large number of emergency cases.

There could be no question about dependability. It's a long, hard trip to Ceepeecee from the mainland. Mail boats make it every 10 days. Nootka's staff demanded a unit that "could take it," a unit that would require an absolute minimum of servicing—and the Model F-3 filled the bill.

True portability was necessary. Transportation on Vancouver Island is a real problem. There are no roads; all travel is by air and water, and there's no room for "excess baggage."

To every medical man who does not have adequate roentgenological service readily available, and who realizes a need for a compact, efficient, dependable portable x-ray unit, G-E makes this suggestion: Protect your investment by investigating the Model F-3 thoroughly before you invest in any x-ray unit.

GENERAL ELECTRIC X-RAY CORPORATION

2012 JACKSON BLVD.

CHICAGO, ILL., U. S. A.

Please send complete information about the G-E Model F-3 Office-Portable X-Ray Unit. Check here ☐ and we will arrange a demonstration of the F-3 for you in your office.

Name

Address

City

A53



... It produces sleep closely resembling the normal from which the patient awakens generally calm and refreshed.

... Its average therapeutic dose is small.

... It acts promptly after administration and its action continues over a period of hours.

... It is readily absorbed and rapidly eliminated.

... It is free from cumulative effect when dosage is properly regulated.

... Its effect on heart, circulation and blood pressure is negligible.

HOW SUPPLIED

IPRAL CALCIUM (calcium ethylisopropylbarbiturate) is supplied in 2-gr. tablets as well as in powder form for use as a sedative and hypnotic; and in $\frac{3}{4}$ -gr. tablets for use when it is desired to secure throughout the day a continued, mild, sedative effect.

IPRAL SODIUM (sodium ethylisopropylbarbiturate) is supplied in 4-gr. tablets for preanesthetic medication.

For literature address Professional Service Department, 745 Fifth Ave., New York

E. R. SQUIBB & SONS, NEW YORK
MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858



Step Toward Perfection

Crude drugs and chemicals procured for the preparation of Lilly products must measure up to highest standards. Assays from outside sources, no matter how reliable, never are accepted without confirmation from the Lilly control laboratories.

Ephedrine Inhalants, Lilly—Ephedrine, topically applied to inflamed nasal mucous membrane, relieves congestion and facilitates drainage.

Inhalant Ephedrine Compound—contains ephedrine, camphor, menthol, and oil of thyme. **INHALANT EPHEDRINE (PLAIN)**—contains ephedrine combined with cinnamic aldehyde and benzaldehyde. **EPHEDRINE JELLY**—contains ephedrine sulfate with aromatics.

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1929: FIRST to supply bulk Parenteral Solutions commercially in vacuum containers. 1931: FIRST to supply solutions in a perfected container with hand, bail, permanent metal identification disk, and vacuum index—the exclusive Va-

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supply a clot-proof blood Filter—the exclusive FILTERDRIP. 1939: FIRST to supply a completely closed, indirect, aseptic Blood Transfusion set — the BAXTER Transfuso-Vac.

Continuing LEADERSHIP

WITH BAXTER, Leadership is a continuing responsibility. Year after year BAXTER has steadily extended the usefulness of the products it pioneered, being the first to supply the recognized requirements, and offering features that have become standard . . . making Parenteral Solutions safer . . . perfecting BAXTER'S 21-Test procedure to assure solutions of the highest quality . . . supplying solutions of all the more widely used formulae . . . developing the perfected Vacoliter—a thoroughly satisfactory container with exclusive index of vacuum . . . providing solutions in 500, 1000 and 2000 cc. sizes.

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In 1939, BAXTER'S outstanding contribution was the now widely accepted technique of blood transfusion with unbroken asepsis . . . a technique revolutionary in its simplicity, ease and positive operation, utilizing the exclusive Transfuso-Vac, Valve and stainless steel, clot-proof Filterdrip, with 2½% Sodium Citrate in Physiological Solution of Sodium Chloride.

In 1940, BAXTER Leadership in development is continuing, with results that may well prove of major importance in its chosen field.

On request, editorial bulletins describing . . . BAXTER'S Parenteral Solutions . . . the new Transfuso-Vac technique of blood transfusion.

DON BAXTER, INC.

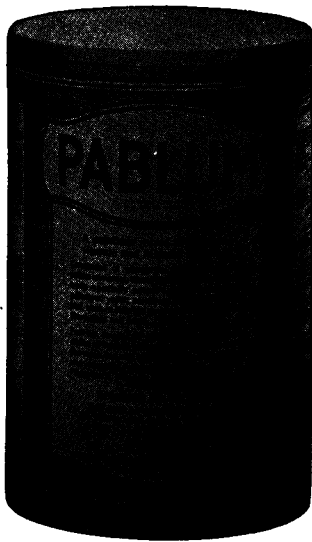
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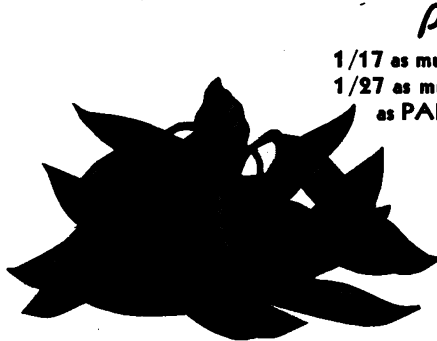
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Shaw Surgical Co. Portland
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Spokane Surgical Supply Company Spokane



PABLUM is Richer than any of these Vegetables in IRON and CALCIUM

1 oz. of Pablum contains 221 mg. Ca, 8.5 mg. Fe—So absorptive is Pablum that when mixed to the consistency of ordinary hot cooked cereals it holds 7 times its weight in milk—before being served with milk or cream. Hence an ounce serving of Pablum thus mixed with milk adds at least .53 Gm. calcium to the diet.



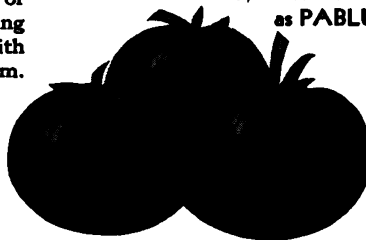
Peas

1/17 as much Fe,
1/27 as much Ca
as PABLUM

	Mg. per Oz.	
	Iron	Calcium
PABLUM	8.5	221.0
Beets	0.67	6.8
Carrots	0.17	13.1
Peas	0.50	8.0
Spinach	0.70	21.8
String Beans	0.27	14.2
Tomatoes	0.12	3.1

Tomatoes

1/70 as much Fe,
1/71 as much Ca
as PABLUM



Carrots

1/50 as much Fe,
1/17 as much Ca
as PABLUM



NOT only does Pablum have a higher iron and calcium content than vegetables but, most important, clinical studies of children have demonstrated that in Pablum these minerals are in available form. Investigations by Stearns and Stinger, Schlutz, and Cowgill show that even such an iron-rich vegetable as spinach did not increase iron storage in the body, in fact, caused a loss in some instances. A factor responsible for this difference may be the higher content of *soluble* iron in Pablum—7.8 mg. per oz. Then, too, the water in which Pablum is cooked (by a patented process) is dried with it, whereas the cooking water of vegetables is usually discarded, with its valuable content of minerals and vitamins. Stearns reports difficulty in feeding spinach in sufficient quantities to affect the iron balance of children. Spinach and other highly flavored vegetables are often difficult to feed. Pablum, on the other hand, is a palatable cereal that can be fed as early as the third month, and for older children it can be varied in dozens of appetizing dishes. Recipes and samples available on request of physicians.

Pablum consists of wheatmeal (farina), oatmeal, wheat embryo, cornmeal, beef bone, brewers yeast, alfalfa leaf, sodium chloride and reduced iron



String Beans

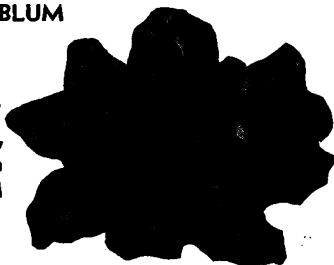
1/31 as much Fe,
1/15 as much Ca
as PABLUM

Beets

1/12 as much Fe,
1/32 as much Ca
as PABLUM

Spinach

1/12 as much Fe,
1/10 as much Ca
as PABLUM



MEAD JOHNSON & COMPANY
EVANSVILLE, INDIANA, U.S.A.

METHODS FOR QUANTITATIVE ESTIMATION OF THE VITAMINS

VI. Measurement of the P-P Factor (Nicotinic Acid)

● Early investigations by the U. S. Public Health Service demonstrated that pellagra may be prevented or cured by dietary regulation. Human subjects confined to an institutional diet known to produce pellagra, were completely protected from this disease by proper supplementation of the institutional diet (1). Ultimately, the existence of the P-P or Pellagra-Preventive factor was established (2).

From the similarity in natural distribution of the dietary factors effective in the control of human pellagra and canine blacktongue—as well as the pathology of these two diseases—the working hypothesis that canine blacktongue is the analogue of human pellagra was adopted (2). Techniques (2, 3) were devised for estimating the pellagra-preventive value of foods by feeding tests with dogs and the results checked by clinical observations with human subjects. The ability of a food to supplement basal diets—known to produce canine blacktongue or human pellagra—so as to prevent or delay the development of characteristic symptoms were the criteria employed for judging the P-P values of foods. Such tests using dogs or human subjects are still the most reliable methods for measuring the P-P potencies of foods (4, 5).

Although pellagra-producing diets may frequently be deficient in a number of

essential nutrients (4, 6), the value of nicotinic acid or nicotinic acid amide for the treatment of the specific symptoms of blacktongue or pellagra is well established (7, 8). Recognition of the importance of nicotinic acid in human nutrition created a definite need for rapid methods of estimating the nicotinic acid content of foods. The possibilities of the reaction between nicotinic acid, cyanogen bromide and aromatic amines as a basis of a colorimetric method for estimating nicotinic acid are receiving consideration (9). However, cyanogen bromide and aromatic amines may react with a number of compounds containing the pyridine ring to produce a yellowish green color. Therefore, it is essential that the specificity of any method for nicotinic acid be clearly established before nicotinic acid values determined by the method can be accepted as indicative of the pellagra-preventive values of foods.

Permanent control of endemic pellagra will require inclusion of a larger number of the protective foods in the pellagrins' diet (4, 6). General improvement of diets by this means will serve to correct not only deficiencies of the P-P factor, but of other essential factors, as well. The value of commercially canned foods in a program designed to correct pellagra—as well as its attendant or secondary dietary deficiencies—might well be emphasized.

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| (1) 1915. U. S. Pub. Health Reports 30, 3117.
1923. Ibid 38, 2361. | (6) 1939. J. Am. Med. Assoc. 112, 2581.
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Amer. Med. Assn., Chicago. | 1938. J. Nutrition 16, 355. |
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1938. Ibid. 110, 622. |
| | (9) 1938. Nature 141, 830.
1939. Biochem. J. 33, 264. |

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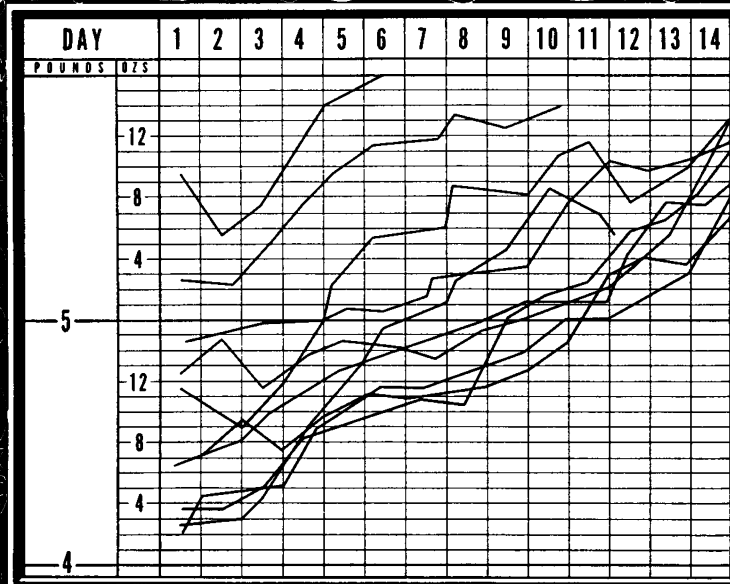
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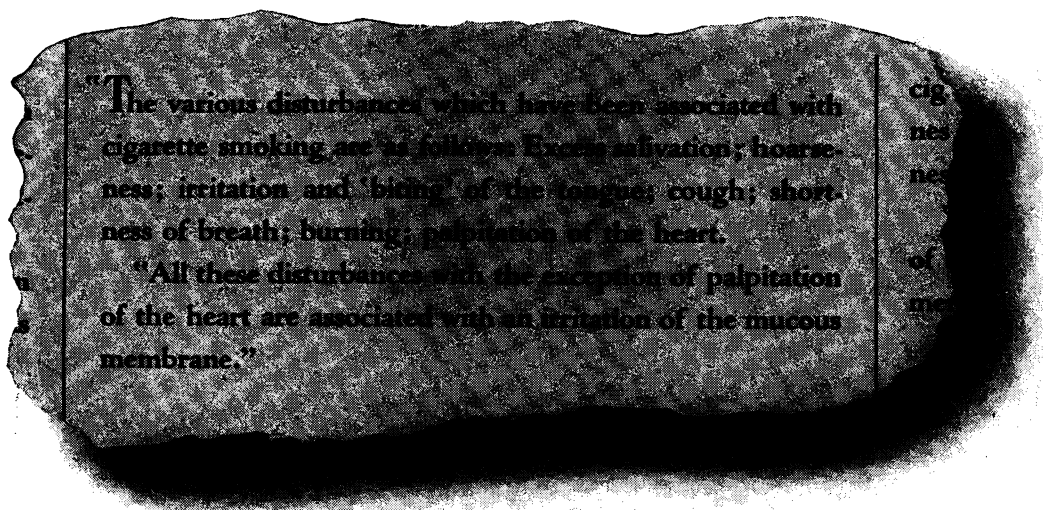
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